

Hazard Control Plan

Title: Crane/Forklift Operations

Identifying Number: P-FM-HCP-2001-009-2001.0

Initial Risk Estimate: Medium

Residual Risk Estimate: Low

Work Permits: N/A

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Organization: P-FM

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Name/Title **Date**

Work Authorization:

David Riker / Facility Manager

Name/Title

Signature

Date

Periodic Review Schedule: Every 3 years or as modification is necessary through feedback or activity change.

Revision Record: Reviewed and revised on 4/02/01, minor changes to reflect a change in editorial information.

CRANE/FORKLIFT OPERATIONS

SCOPE:

This Hazard Control Plan applies to P-FM personnel performing crane or forklift operations.

DESCRIPTION OF OPERATION:

This activity entails using cranes, forklifts, hoists and rigging equipment while performing facility related activities, which may include waste management activities. Some operations may pose certain risks as a result of using live loads with the potential for kinetic energy release. In addition, crane operations within FMU 77 may include assistance to tenant organizations and therefore are highly variable, thus it is difficult to assess all potential operations. Appropriate hazards and controls must be evaluated for each well-defined work activity.

MATERIAL AND EQUIPMENT:

Cranes, forklifts, hoists and rigging equipment.

LANL AND REGULATORY REQUIREMENTS:

Occupational Safety and Health Administration (OSHA) Regulations 1910.178;
American National Standards Institute (ANSI)/American Society of Mechanical
Engineers (ASME) Standard B56.1;

LIR 402-1110-01.1 Forklifts and Powered Industrial Trucks

AR 13-2 Cranes, Hoists, Lifting Devices, and Rigging

DOE "Hoisting and Rigging Standards" STD-1099-99 and Crane Safety Manual
Forklift Student Guide

Notice 27 Crane Ownership and Safety

LIR 300-00-01.1 Safe Work Practices

FACILITY SPECIFIC REQUIREMENTS:

It is the responsibility of P-FM personnel to become familiar with the site hazards of the facility prior to entering the area. The employee may require escort or a site brief by a person who is familiar with the site-specific hazards.

EMERGENCY ACTIONS:

P-FM Personnel should be familiar with emergency signals, procedures, and emergency equipment (pull boxes, etc.) for the facility, building, area, or operation. Personnel should be knowledgeable of muster areas designated for the site in which the work is being done. Call 911 for immediate crisis/fire/medical assistance. *"In the event of an*

emergency, remember that your first responsibility is your own safety. Do not perform any shutdown procedures if it means compromising your safety.”

WORK ACTIVITIES/HAZARDS/CONTROLS

Activity	Hazard	Control
Forklift Operations	Unknown Conditions	<ul style="list-style-type: none"> • Check for conditions that may be dangerous or unsafe. Ensure that the forklift is suitable for the work conditions/activity at hand.
	Blind spots (potential to run over personnel or equipment)	<ul style="list-style-type: none"> • Forklift Driver Certification • Use of a spotter • Ensure backup warning alarm is working properly • Scene survey by operator
	Driving conditions	<ul style="list-style-type: none"> • Forklift Driver Certification • Ensure that your path of travel is not obstructed by forklift load. Travel in reverse if necessary • Always drive at a safe speed such that you are in complete control and can stop in unexpected situations. Slow down when making sharp turns • Sound horn at blind corners and when backing up • Keep alert for persons who may unexpectedly dart out in front of you • Always give warning when approaching anyone from the rear • Keep your hands and feet inside the truck at all times and ensure seatbelts are used. • When driving without a load, keep forks approximately six inches above the floor or ground if conditions permit • Do not drive too close to the edge of platforms or ramps • Ensure that proper clearance exists on all sides as well as overhead • Grades shall be ascended and descended slowly with the load positioned on the up slope • Avoid sudden starts and stops

Activity	Hazard	Control
Forklift Operations	Driving Conditions	<ul style="list-style-type: none"> • Select the correct type and size of forklift for each activity. Ensure that the propulsion (gasoline, diesel, propane, or electric), capacity type and size of tires are appropriate for the job, location and terrain. • All equipment in use shall be certified and proper application techniques shall be used • Watch for forklift rear end swing • Proceed with caution on wet, slippery surfaces • Drive carefully and observe traffic rules at the worksite • When possible carry loads approximately six inches above the floor. These will reduce the possibility of turning the forklift over or dumping the load
	Lifting a load	<ul style="list-style-type: none"> • Know the rated capacity of the forklift and center of gravity of the load. Never load beyond recommended limits • Avoid carrying loose material on the forks. Use pallets whenever possible. Use tie downs on any load that is not stable • NEVER allow anyone to stand under the elevated portion of a forklift • Prior to lifting, ensure that loads are stable, secured and properly balanced. • Pickup the load under the center of its weight to avoid tipping the forklift over or shifting the load. • Tilt the load against the mast prior to moving the forklift. • If drum lifting devices are used, ensure that the equipment is certified for the activity • Ensure there is sufficient headroom when raising loads. Watch for beams, pipelines, lights, heaters, and other obstructions • If hazardous materials are being carried, prior to entering a building or confined area ensure that explosive or toxic atmospheres

Activity	Hazard	Control
Forklift Operations	Parking	<p>are not present.</p> <ul style="list-style-type: none"> Do not lift loads on an incline Forklift Driver Certification When parking , lower forks to the floor and set brakes When a forklift is left unattended, neutralize the controls, disconnect the power plug on electric trucks, or shut off engine. Wheels shall be chocked if the forklift is parked on an incline. Forklift Driver Certification
	Carbon monoxide	<ul style="list-style-type: none"> Combustible engine forklifts will not be used in buildings or enclosed spaces unless an appropriate ES&H review has been conducted
	Release of mechanical and kinetic energy sources	<ul style="list-style-type: none"> All equipment in use shall be certified. Proper application techniques shall be used. Personal Protective Equipment (PPE) including gloves, safety glasses and hard hats are to be utilized as required. Establish safety areas and zones.
	Unauthorized use of forklift	<ul style="list-style-type: none"> Control use of forklift by controlling keys Adhere to inspection and maintenance programs Forklift Driver Certification
	Unknown Conditions	<ul style="list-style-type: none"> Check for conditions that may be dangerous or unsafe. Ensure that the crane is suitable for the work conditions at hand
Crane Operations	Blind Spots(potential to strike personnel or equipment)	<ul style="list-style-type: none"> Crane Operator Certification Use of a spotter
	Operating Conditions	<ul style="list-style-type: none"> Scene survey by operator

Activity	Hazard	Control
Crane Operations	Lifting a load	<ul style="list-style-type: none"> • Keep alert for persons who may unexpectedly enter the established cone of safety • Ensure that there is proper clearance on all sides as well as ground • All equipment in use (including rigging) shall be certified and proper application techniques shall be used • When possible move loads as close to the floor as possible • Crane Operator Certification
	High Consequence Lift (Critical Lift)	<ul style="list-style-type: none"> • Know the rated capacity of the crane and the center of gravity of the load. Never load beyond these limits • Prior to lifting, ensure that loads are stable and properly balanced • Pickup the load near the center of its weight to avoid shifting the load • Crane Operator Certification
	Release of mechanical and kinetic energy sources	<ul style="list-style-type: none"> • A detailed step by step procedure for high consequences lists must be prepared and approved as outlined in AR13-2
	Unauthorized use of cranes	<ul style="list-style-type: none"> • All equipment in use shall be certified. Proper application techniques shall be used. • Personal Protective Equipment (PPE) including gloves, safety shoes, safety glasses, and hard hats as required • Established cone of safety • Crane Operator Certification • Control use of cranes by LOTO • Adhere to inspection and maintenance programs • Crane Operator Certification

WASTES PRODUCED: None

**KNOWLEDGE, SKILLS AND ABILITIES NECESSARY TO UTILIZE TIME
CONTROLS AND PERFORM THE WORK SAFELY:**

P-FM personnel authorized to perform work under this HCP shall meet job description requirements. P-FM personnel performing these tasks must be able to anticipate, recognize, and control for hazards associated with the work areas. P-FM personnel must read, and acknowledge understanding of this HCP (by signing) prior to performing the applicable activities.

FORMAL AND ON-THE-JOB TRAINING:

Course	Course Number	Training Location
GET Training	15503	ESH-13 Training CenterWhite Rock
Safe Work Practices	14182	White Rock
Incidental Crane and Rigging Safety	8866	White Rock
Forklift Proficiency	12565	White Rock
Forklift Fundamentals	753	White Rock

RISK DETERMINATION MATRIX

	<u>Likelihood</u>				
<u>Severity</u>	Frequent Usual occurrence to likely occurrence, reasonably expected	Probable Likely occurrence to irregular occurrence, infrequent	Occasional Irregular occurrence, infrequent to slight chance of occurrence	Improbable Slight chance of occurrence to highly unlikely occurrence	Remote Highly unlikely occurrence to extremely unlikely occurrence
Catastrophic Death, severe injury/occupational illness, severe environmental harm or liability, or severe property damage	<u>HIGH</u>	<u>HIGH</u>	<u>HIGH</u>	<u>MEDIUM</u>	<u>LOW</u>
Critical Major injury/chronic impairment or occupational illness, major environmental harm or liability, or major property damage	<u>HIGH</u>	<u>HIGH</u>	<i>Initial</i> <u>MEDIUM</u>	<i>Residual</i> <u>LOW</u>	<u>MINIMAL</u>
Moderate Minor injury/temporary impairment or occupational illness, minor environmental harm or liability, or minor property damage	<u>HIGH</u>	<u>MEDIUM</u>	<u>LOW</u>	<u>MINIMAL</u>	<u>MINIMAL</u>
Negligible Less-than-minor injury or occupational illness, less-than-minor environmental harm or liability, or less-than-minor property damage	<u>LOW</u>	<u>MINIMAL</u>	<u>MINIMAL</u>	<u>MINIMAL</u>	<u>MINIMAL</u>

P-FM Hazard Control Plan for Crane/Forklift Operations

The signature of Group Management has authorized you to perform the work in this HCP. Your signature below acknowledges that you have read and understand the HCP.

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